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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,574	12/27/2001	Junaid Akhtar	10541/345	1541
29074	7590	01/08/2004	EXAMINER	
BRINKS HOFER GILSON & LIONE			BURCH, MELODY M	
P.O. BOX 10395			ART UNIT	
CHICAGO, IL 60611			PAPER NUMBER	

3683

DATE MAILED: 01/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary****Application No.**

10/034,574

**Applicant(s)**

AKHTAR ET AL.

**Examiner**

Melody M. Burch

**Art Unit**

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/3/03 has been entered.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 7, 9, 12, 13, 15, 19, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4802659 to Hope.

Re: claims 1 and 2. Hope shows in figure 2 a variable rate multi-arc leaf spring assembly comprising:

a main leaf spring 1 constructed of a composite material as disclosed in the first line of the abstract, said leaf spring defining an upwardly curved central arc portion shown in the area above element number 5 and to the left of the lead line of number 8 having a first radius and at least one pair of upwardly curved peripheral arc portions 3 extending from said central arc portion and having radii not equal to said first radius, wherein said main leaf spring providing a continuous variable spring deformation rate

including a soft spring rate and a hard spring rate to the same extent as Applicant's leaf spring due to the central arc and peripheral arc portions having different radii.

Re: claims 4 and 15. Hope shows in figure 2 the limitation wherein the main leaf spring further includes at least one integral mounting end shown at the outermost ends of elements 3 connected with at least one upwardly curved peripheral arc portion of the at least one pair of upwardly curved peripheral arc portions, the at least one integral mounting end adapted to be connected to a loading structure 6.

Re: claims 7, 9, 12, 13, 19, 31, and 32. Hope shows in figure 2 the limitation of the multi-arc leaf spring assembly further comprising a load plate 5 mounted beneath the main leaf spring, wherein the load plate gradually engages the main leaf spring during a predetermined set of payload conditions to enhance the soft spring rate.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hope.

Hope discloses the claimed invention except for the limitation wherein the load Plate is specifically constructed of a composite material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the load plate of Hope to have been constructed

of a composite material to provide a load plate having corrosion resistance and lower weight, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

6. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hope in view of US Patent 5938221 to Wilson.

Hope is silent as to the structure of the at least one integral mounting end.

Wilson teaches in figure 3 the use of a leaf spring assembly wherein the at least one integral mounting end comprises a mounting eyelet 16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the at least one integral mounting end of Hope to have included a mounting eyelet, as taught by Wilson, in order to provide a functionally equivalent means of mounting a leaf spring to the chassis of a vehicle.

7. Claims 5, 6, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hope in view of US Patent 4969633 to Ryan.

Hope is silent as to the structure of the at least one integral mounting end.

Ryan teaches in figure 1 the use of a leaf spring having an at least one integral mounting end comprising a mounting eyelet 3 having a metallic insert 4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the at least one integral mounting end of Hope to have included a mounting eyelet including a metallic insert, as taught by Ryan, in order to provide an attachment means with rigidity and high structural integrity provided by a metal material.

Hope, as modified, does not specifically disclose that the metallic insert is "out-of-mold". It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the metallic insert to have been an out of mold metallic insert since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

8. Claims 10, 11, 20, 21, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hope in view of US Patent 4801129 to Wells.

Hope describes the invention substantially as set forth above, but does not include the limitation of an intermediary member constructed of urethane.

Wells teaches in figure 2 the use of an intermediary member 2 made of urethane as taught in col. 7 lines 39-41 spaced between a leaf spring 10 and a load plate 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the intermediary member between the leaf spring and the load plate of Hope to have included an intermediary member made of urethane, as taught by Wells, in order to provide a tough buffer or spacer means between the spring and the load plate. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

9. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 3849037 to Downs in view of US Patent 4802659 to Hope.

Re: claims 1 and 3. Downs shows in figure 4 a variable rate multi-arc leaf spring

assembly comprising:

a main leaf spring 64 constructed of a material, said leaf spring defining an upwardly curved central arc portion 66 having a first radius and at least one pair of upwardly curved peripheral arc portions 68 extending from said central arc portion and having radii not equal to said first radius, wherein said main leaf spring providing a continuous variable spring deformation rate including a soft spring rate and a hard spring rate to the same extent as Applicant's leaf spring due to the central arc and peripheral arc portions having different radii.

Downs lacks the limitation of the leaf spring being constructed specifically of a composite material.

Hope teaches in the first line of the abstract the use of a leaf spring being constructed of a fiber reinforced composite material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the material of the leaf spring of Downs to have been constructed of a fiber reinforced composite material, as taught by Downs, in order to provide a functionally equivalent spring means having increased corrosion resistance and lower weight.

Re: claims 12-14. Hope, as modified as set forth in the rejection of claim 1, teaches in figure 3 of Downs the use of a load plate 50.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

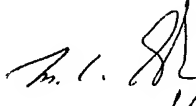
**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 1/5/04  
mmb  
January 5, 2004

  
1/6/2004  
MATTHEW C. GRAHAM  
PRIMARY EXAMINER  
GROUP 310